

Antibiotic Resistance Solutions Initiative

\$264M: A Comprehensive Response

The problem

Antibiotic resistance, when bacteria don't respond to the drugs designed to kill them, threatens to return us to the time when simple infections were often fatal. To address this threat, CDC and public health partners must fully implement the National Strategy for Combating Antibiotic-Resistant Bacteria.

Estimated minimum number of illnesses and deaths caused by antibiotic resistance:

At least  **2,049,442** illnesses
 **23,000** deaths

The action

The national strategy identifies five core actions:

- ▶ Slow the Development of Resistant Bacteria and Prevent the Spread of Resistant Infections
- ▶ Strengthen National One-Health Surveillance Efforts to Combat Resistance
- ▶ Advance Development and Use of Rapid and Innovative Diagnostic Tests for Identification and Characterization of Resistant Bacteria
- ▶ Accelerate Basic and Applied Research and Development for New Antibiotics, Other Therapeutics, and Vaccines
- ▶ Improve International Collaboration and Capacities for Antibiotic Resistance Prevention, Surveillance, Control, and Antibiotic Research and Development

Antibiotic Resistance Threats Impact



Healthcare



Community



Food/Farms



The World

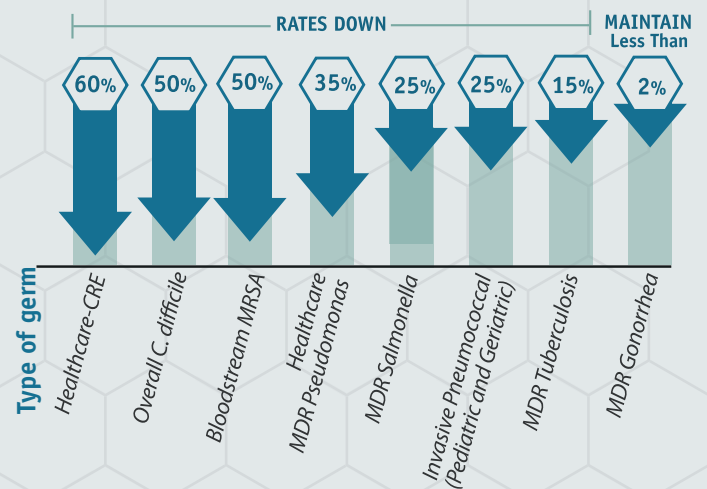
The results

The FY16 AR Solution Initiative fully implements the National Strategy for Combating Antibiotic-Resistant Bacteria.

- ✓ Comprehensive Tracking
- ✓ Rapid Detection
- ✓ Faster Outbreak Response
- ✓ Insights for Research Innovation
- ✓ Better Patient Care
- ✓ Improved Prescribing
- ✓ 10x More Susceptibility Testing
- ✓ Nationwide Implementation of CDC Core Elements of Hospital Antibiotic Stewardship
- ✓ Global Partnerships for Prevention and Detection



ANTICIPATED % REDUCTION RATE



MDR: multidrug-resistant



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

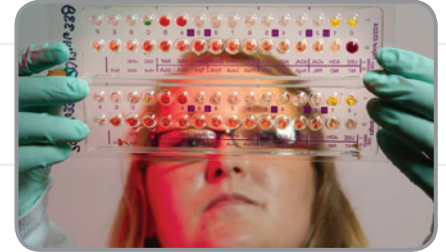
The details



Stop Spread; Protect People

Action in every state

- ▶ **Establish State AR Prevention Programs (“Protect Programs”)**, groups of healthcare facilities in communities around the country that work together to better track outbreaks, improve prescribing, and prevent infections
- ▶ **Detect and respond rapidly to reduce spread** of multidrug-resistant gonorrhea (GC) and better treatment of GC
- ▶ **Identify critical new interventions** against multidrug-resistant tuberculosis (TB) and expand pre-migration TB screening beyond immigrants and refugees
- ▶ **Support development of next generation rapid susceptibility tests** for drug-resistant pathogens
- ▶ **Identify new ways to prevent human infections caused by resistant bacteria** (such as *Salmonella*) from food animals using the National Antimicrobial Resistance Monitoring System (NARMS)



Track Superbugs; Measure Impact

Accelerate outbreak detection and prevention innovation

- ▶ **New Detect Network of AR Regional Labs** to improve response to outbreaks of urgent, serious, or concerning threats; know faster which antibiotics work; and use cutting edge methods to track and get ahead of spread
- ▶ **New AR Isolate Bank** to provide a complete collection of current resistant threats; help keep pace with mutations; and provide information for FDA-approval of products and for companies/researchers’ new tests and antibiotics
- ▶ **Measure impact of antibiotics on human microbiome** to learn if a healthy microbiome protects people and to learn if antibiotics given to infants and elderly lead to health problems or higher risk of drug-resistant infection
- ▶ **Double number of CDC’s Emerging Infections Program (EIP) sites** to expand tracking to urgent and serious threats; track evolving AR threats better; and improve understanding of who is at risk
- ▶ **Enhance global partnerships** for prevention and detection to combat AR internationally



Track and Improve Prescribing

Improve antibiotic use and reduce antibiotic resistance

- ▶ **Provide real-time data about antibiotic use and trends in healthcare** in specific facilities and across regions using the National Healthcare Safety Network (NHSN); set the standard for how facilities, communities, states, and the nation can improve antibiotic use and reduce resistance
- ▶ **Improve antibiotic prescribing practices in healthcare (antibiotic stewardship)** by ensuring all hospitals have effective stewardship programs and evaluating state-to-state variations in antibiotic use to improve prescribing outside of hospitals
- ▶ **Provide real-time data about antibiotic use and trends for outpatient care** to better understand prescribing practices and set national goals for improving antibiotic use
- ▶ **Measure the impact of antibiotic use on human and animal health** and greatly scale up rapid detection of AR infections commonly transmitted through food to humans by collaborating with FDA and USDA to expand the National Antimicrobial Resistance Monitoring System (NARMS)

